REMARKS

The Office Action of January 14, 2010 constitutes a non-final rejection of the claims. The Office Action and the references relied upon therein have been carefully reviewed. Reconsideration and allowance of the claims are requested in view of the foregoing amendments and the following remarks.

I. Claim Status and Amendments

Claims 24-37 presently appear in this application. Claims 1-23 were previously cancelled. Claims 27, 28, 31, and 33 have been withdrawn as non-elected subject matter. Claims 24-26, 30, 32, and 34-47 have been examined on the merits and stand rejected. No claims have been allowed.

By the present amendment, claim 24 has been amended to incorporate part of claim 25, now cancelled without prejudice or disclaimer thereto. Claim 24 has also been amended to specify that the agent is an "active" agent as supported by the disclosure; see for example, paragraph [0023] of the published application, i.e., Patent Application Publication No. 2008-0085269 A1.

The remaining claims have been amended to be consistent with the revisions to claim 24 and in a non-narrowing manner to address formal matters, such as changing the dependency to be consistent with the cancellation of claim

25. Other minor editorial revisions have been made to the claims to better conform to U.S. claim form and practice. Such revisions are non-substantive and not intended to narrow the scope of protection. Such revisions include: revising the beginning of the claims to recite "A" or "The"; revising the claim language to provide proper antecedent basis throughout the claims; and correcting punctuation and spelling errors. In keeping with US law, the use of "a" or "an" in patent parlance carries the meaning of "one or more".

No new matter has been added by the above amendments.

Claims 25, 27, 30, and 33 have been cancelled without prejudice or disclaimer thereto. Applicants reserve the right to file a continuation or divisional application on any cancelled subject matter.

Claims 24, 26, 28, 29, 31, 32, and 34-37 are pending upon entry of this amendment, and these claims define patentable subject matter warranting their allowance for the reasons discussed herein.

II. Enablement Rejection

Claims 24-26, 30, 32, and 34-37 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement for the reasons set forth on

pages 4-7 of the Office Action. The Examiner contends that the specification, while being enabling for treating neuronal degeneration caused by glutamate toxicity or A or $A\beta_{1-40}$ toxicity in an animal model, does not provide enablement for treating or reducing progression in a neurodegenerative disease such as Huntington's disease (HD). This rejection is respectfully traversed.

The Examiner states that the specification discloses examples and evidence in an animal model of administration of Cop 1 via prior injection or immunization, resulting in reduced glutamate toxicity or $A\beta_{1-40}$ toxicity in retinal ganglion cells. However the Examiner alleges that the specification does not provide enablement for treating or reducing progression of a neurodegenerative disease such as HD.

The Examiner argues that despite extensive research the state of the art is low with regard to treatment of HD and cites an article from the National Institute of Neurological Disorders and Stroke which discloses that although there are a number of medications available to help control emotional and movement problems associated with HD, there is currently no treatment to stop or reverse the course of the disease. The Examiner concludes that due to the unpredictability of treatment of neurodegenerative disease, the Applicant's

limited disclosure on animal model of glutamate toxicity is not sufficient to justify claiming a broad method of treatment of HD.

Applicants respectfully disagree. The test of enablement is whether one reasonably skilled in the art could make or use the invention based on the disclosure in the specification coupled with the knowledge in the art without undue experimentation. The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. M.P.E.P., Eighth Ed., Rev. 7 (July 2008) at § 2164.01 and *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. In fact, the test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification provides reasonable guidance with respect to the direction in which the experimentation should proceed.

In the instant case, it is respectfully submitted that the specification provides sufficient to enable the claimed treatment of a neurodegenerative disorder or disease in which there is accumulation of misfolded and/or aggregated proteins, such as Huntington's disease (herein after "HD") and

Alheimer's Disease (hereinafter "AD"), based on the guidance in the disclosure and the examples therein, which include *in vivo* examples using an art recognized animal model for HD and AD. See the specification at page 23 to page 24, lines 1-10, which provides support for use of the HD R6/2 mouse model of HD. HD R6/2 transgenic mice over-express exon 1 of the human Huntington's disease gene and have been used widely as a recognized animal model of human HD. Example 3 of the specification discloses an *in vivo* animal test system for Huntington's disease in which Cop 1 vaccination resulted in significant improvement in motor performance, delayed onset of disease and improved life expectancy in HD R6/2 transgenic mice. Also provided, together with results from Examples 1 and 2, is a human adult dose conversion and a detailed dose regime.

In further support of the position that the HD R6/2 mouse is an accepted animal model for human HD, Applicants submit herewith Peng et al. ("The antidepressant sertraline improves the phenotype, promotes neurogenesis and increases BDNF levels in the R6/2 Huntington's disease mouse model." *Exp Neurol*. 2008 Mar;210(1):154-63.) This reference shows that setraline, an antidepressant drug, mentioned in the reference cited by the Examiner, improves the phenotype, promotes neurogenesis and increases BDNF levels in HD R6/2 mice.

In view of the above, it should be clear that the HD R6/2 model (in the working examples) is a well recognized animal model for HD. Moreover, there is no reason to believe that the results disclosed in the specification using this art recognized animal model cannot be extrapolated to humans to provide enablement for treating or reducing progression a neurodegenerative disease, such as HD.

In addition, it should be emphasized that neurodegenerative diseases, such as HD, Alzheimers disease (AD) and Parkinson's disease (PD) can all be defined by the fact that patients suffer from some form of neuron loss or neuronal cell death. In human AD, neuronal degeneration is associated with the presence of insoluble ß-amyloid-containing plaques in the CNS. The present application discloses and uses a mouse model of neuronal loss in AD in which neuronal degeneration (loss of retinal ganglion cells) is caused by intraocular injection of aggregated ß-amyloid. Subsequent Cop-1 vaccination results in reduced neuronal loss. Applicants respectfully submit that this model, together with the positive results disclosed in the specification, provide sufficient enablement for treatment or reduced progression of AD.

Further, it is well established that in order to make an enablement rejection, the Office has the initial

burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (i.e., the Office must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). M.P.E.P., Eighth Ed., Rev. 6 (September 2007) at § 2164.04. However, the Office has not provided a rationale and/or an evidentiary basis to question the *in vivo* effectiveness of the claimed method of treatment. The Examiner has not provided arguments/evidence showing the ineffectiveness of the claimed methods.

In particular, no evidence or rationale has been presented to disprove the positive results in the specification. The Examiner's arguments with respect to the alleged unpredictability in the field, including the contention on page 6 that "[t]he state of the art is relatively low with regard to the treatment of HD", do not negate the positive findings in the disclosure for treating the disease conditions using an art recognized animal model for the disease. Similarly, the Examiner's position in the last sentence on page 5 that the disclosed examples are based on the animal model having been injected or immunized prior to glutamate toxicity or $A\beta_{1-40}$ toxicity also does not negate the positive findings in the disclosure. No rationale or evidence

has been provided as to why this treatment would not also be effective to treat individuals who already have the disease.

Based on the above, it is respectfully submitted that the skilled artisan could extrapolate from the results of the *in vivo* examples using an art recognized animal model for HD and AD and the disclosed human dose conversion information to formulate an effective dosage to administer to humans to thereby treat or reduce progression a neurodegenerative disease, such as HD and AD, without undue experimentation. Indeed, determining appropriate dosage levels is generally regarded as not requiring undue experimentation of persons of ordinary skill in the art. *In re Bundy*, 642 F.2d 430, 209 U.S.P.Q. 48 (C.C.P.A. 1981). For these reasons, Applicants respectfully submit that the skilled artisan could practice the scope of the amended claims without undue experimentation.

Thus, Applicants respectfully submit that the disclosure provides sufficient guidance to enable the skilled artisan to practice the full scope of the claims for treating cancers without undue experimentation.

For these reasons, it is believed that the above enablement rejection is untenable and should be withdrawn.

III. Anticipation Rejection

Claims 24-26, 30, 32, and 34-37 have been rejected under 35 U.S.C. § 102(b) as anticipated by Eisenbach-Schwartz et al. (US2002/0037848; WO01/52878) for the reasons on page 7 of the Office Action. This rejection is respectfully traversed.

According to the Examiner, Eisenbach-Schwartz et al. teach a method for administering Cop 1 to a patient suffering from neurodegenerative diseases such as Huntington's disease. Applicants respectfully disagree and submit that Eisenbach-Schwartz et al. is a non-enabling reference.

It is well established that "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003).

In the instant case, the Abstract and paragraphs [0026], [0097] and [0116] in the cited application to Eisenbach-Schwartz et al. describe only the ideas and suggestions with respect to treatment of HD with Cop 1, and but it does not provide any substantial experimental evidence to be considered enabling for this aspect of the claimed invention. Accordingly, a person skilled in the art, knowing the complexity involved in treatment of neurodegenerative diseases, would realize that the mere mention in a publication of use of Cop 1 for treatment of a disease, as complicated as HD, does not anticipate, nor render obvious a method for treating a neurodegenerative disorder, such as that in claims 24-26, 30, 32 and 34-37. For these reasons, it is believed that Eisenbach-Schwartz et al. cannot be enabling for the claimed method, and thus, the reference cannot anticipate the present claims.

For this reason, the anticipation rejection over Eisenbach-Schwartz et al. is untenable and should be withdrawn.

Lastly, it should be noted that the amended claims (that have been limited to AD and HD, and in which Parkinson's diseases has been removed) correspond to the granted claims in the corresponding Australian patent. This is further evidence that the instant should be allowed.

IV. Rejoinder

To the extent that rejoinder remains applicable, Applicants herein request the Examiner to consider rejoining the non-elected and withdrawn claims upon a determination of allowance of the elected invention.

V. Conclusion

Having addressed all the outstanding issues, this paper is believed to be fully responsive to the Office Action. It is respectfully submitted that the claims are in condition for allowance and favorable action thereon is requested.

If the Examiner has any proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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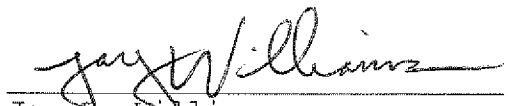
By 
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APPENDIX:

The Appendix includes the following item(s):

Peng et al., "The antidepressant sertraline improves the phenotype, promotes neurogenesis and increases BDNF levels in the R6/2 Huntington's disease mouse model." *Exp Neurol.* 2008 Mar;210(1):154-63.